

We Claim:

1. An isolated antibody that binds to a *p63* protein and does not detectably bind to a *p53* or *p73* protein.
2. The antibody of claim 1, wherein the antibody is specifically immunoreactive with a *p63* protein.
3. The antibody of claim 1, wherein the antibody binds to a *p63* protein comprising an amino acid sequence having at least about 90% identity with a sequence set forth in any one of SEQ ID NOs: 13-24.
4. The antibody of claim 3, wherein the antibody binds to a *p63* protein comprising an amino acid sequence having at least about 95% identity with a sequence set forth in any one of SEQ ID NOs: 13-24.
5. The antibody of claim 4, wherein the antibody binds to a *p63* protein comprising an amino acid sequence having at least about 98% identity with a sequence set forth in any one of SEQ ID NOs: 13-24.
6. The antibody of claim 3, wherein the antibody binds to a *p63* protein comprising an amino acid sequence having a sequence set forth in any one of SEQ ID NOs: 13-24.
7. The antibody of claim 1, wherein the antibody binds to a *p63* protein encoded by a nucleic acid sequence which hybridizes under stringent conditions to the complementary strand of a nucleic acid having a sequence set forth in any one of SEQ ID NOs: 1-12.
8. The antibody of claim 7, wherein the antibody binds to a *p63* protein encoded by a nucleic acid sequence of any one of SEQ ID NOs: 1-12.
9. The antibody of claim 1, wherein the antibody binds to a *p63* protein comprising the amino acid sequence set forth in SEQ ID NO: 16.

10. The antibody of claim 1, wherein binding is determined using immunoprecipitation, immunostaining, western blotting, or a radioimmunoassay (RIA).
11. The antibody of claim 1, wherein the antibody is a monoclonal antibody.
12. The antibody of claim 1, wherein the antibody is a recombinant antibody.
13. The antibody of claim 1, wherein the antibody is an antibody fragment.
14. The antibody of claim 13, wherein the antibody fragment is an Fab, F(ab')₂, Fab', Fv, or scFv.
15. The antibody of claim 1, wherein the antibody is a mouse antibody.
16. The antibody of claim 1, wherein the antibody is a human antibody.
17. The antibody of claim 1, wherein the antibody is a humanized antibody.
18. The antibody of claim 1, wherein the antibody comprises a label.
19. The antibody of claim 18, wherein the label is at least one of the following: a radioisotope, a fluorescent compound, an enzyme, or an enzyme co-factor.
20. The antibody of claim 1, wherein the antibody is antibody 4A4.
21. The antibody of claim 1, wherein the antibody binds to the epitope to which antibody 4A4 binds.
22. The antibody of claim 1, wherein the antibody inhibits binding of *p63* to antibody 4A4.
23. An isolated antibody that selectively binds to a *p63* protein relative to *p53* and *p73* proteins.

24. A hybridoma producing the antibody of claim 11.
25. A purified preparation of polyclonal antibodies wherein the antibodies bind to a *p63* protein and do not detectably bind to a *p53* or *p73* protein.
26. The purified preparation of claim 25, wherein the antibodies are specifically immunoreactive with a *p63* protein.
27. The purified preparation of claim 25, wherein the antibodies are antibody fragments.
28. The antibody of claim 25, wherein binding is determined using immunoprecipitation, immunostaining, western blotting, or a radioimmunoassay (RIA).
29. An isolated polypeptide wherein said polypeptide comprises (a) an amino acid sequence set forth in any one of SEQ ID NOs: 13-24; (b) an amino acid sequence having at least about 90% identity with an amino acid sequence set forth in any one of SEQ ID NOs: 13-24; (c) an amino acid sequence encoded by a nucleic acid that hybridizes under stringent conditions to the complementary strand of a nucleic acid having a sequence set forth in any one of SEQ ID NOs: 1-12; or (d) a fragment of an amino acid sequence set forth in any one of SEQ ID NOs: 13-24.
30. The isolated polypeptide of claim 29, wherein said polypeptide has one or more of the following biological activities: (i) binds a target DNA sequence, (ii) transactivates a target gene, (iii) induces apoptosis, (iv) oligomerizes, (v) localizes to basal epithelial cells, or (vi) localizes to squamous cervical cells.
31. The isolated polypeptide of claim 30, wherein said target DNA sequence is at least one of the following: (i) a *p53*-responsive element, (ii) a minimal *p53* target binding sequence, or (iii) a *p53* target DNA binding sequence in a *p21* promoter.
32. The isolated polypeptide of claim 29, wherein said polypeptide is a fusion protein.

33. The isolated polypeptide of claim 32, wherein said polypeptide is functional in a two-hybrid assay.

34. The isolated polypeptide of claim 29, wherein said polypeptide is functions either as an agonist of cell cycle regulation or an antagonist of cell cycle regulation.

35. The isolated polypeptide of claim 29, wherein said polypeptide comprises an amino acid sequence having at least about 95% identity with an amino acid sequence set forth in any one of SEQ ID NOs: 13-24.

36. The isolated polypeptide of claim 35, wherein said polypeptide comprises an amino acid sequence having at least about 98% identity with an amino acid sequence set forth in any one of SEQ ID NOs: 13-24.

37. The isolated polypeptide of claim 29, wherein said polypeptide comprises an amino acid sequence set forth in any one of SEQ ID NOs: 13-24.

38. The isolated polypeptide of claim 29, wherein said polypeptide is a mammalian polypeptide.

39. The isolated polypeptide of claim 38, wherein said polypeptide is a human polypeptide.

40. A kit for detecting a *p63* protein comprising (i) an isolated anti-*p63* antibody, or fragment thereof, and (ii) a means for detecting the anti-*p63* antibody.

41. The kit of claim 40, wherein the means for detecting the anti-*p63* antibody is one or more of a buffer, formaldehyde, an enzyme, a co-enzyme, a substrate, a polypeptide, an antibody, or a detectable label.

42. The kit of claim 41, wherein the means for detecting the anti-*p63* antibody is a detectable label conjugated to the anti-*p63* antibody.

43. The kit of claim 41, wherein means for detecting the anti-*p63* antibody is a second antibody immunoreactive with the anti-*p63* antibody.

44. The kit of claim 40, wherein the anti-*p63* antibody binds to a *p63* protein and does not detectably bind to a *p53* or *p73* protein.

45. The kit of claim 44, wherein the anti-*p63* antibody is specifically immunoreactive with a *p63* protein.

46. The kit of claim 40, wherein the anti-*p63* antibody binds to a *p63* protein comprising an amino acid sequence having at least about 90% identity with a sequence set forth in any one of SEQ ID NOs: 13-24.

47. The kit of claim 40, wherein the anti-*p63* antibody binds to a *p63* protein comprising an amino acid sequence having a sequence set forth in any one of SEQ ID NOs: 13-24.

48. The kit of claim 40, wherein the anti-*p63* antibody is a monoclonal antibody.

49. The kit of claim 40, wherein the anti-*p63* antibody is a purified preparation of polyclonal antibodies.

50. The kit of claim 40, wherein the anti-*p63* antibody is provided in a form suitable for detecting a *p63* protein in cells.

51. A kit for immunostaining a sample of cells, comprising: one or more antibodies, or fragments thereof, for selectively binding *p63* protein in the sample, relative to *p53* and *p73*; and a means for selectively detecting the antibody bound to *p63* protein in the sample of cells.

52. The kit of claim 51, further comprising one or more reagents for fixing said sample of cells before immunostaining.

53. The kit of claim 51, wherein the sample of cells is a tissue section.

54. The kit of claim 51, wherein the means for selectively detecting the antibody is an agent that binds to the antibody and which includes a label that is detectable by spectrophotometry or fluorometry.

55. The kit of claim 51, wherein the means for selectively detecting the antibody is an agent that binds to the antibody and which includes an enzyme that acts on a chromogenic substrate.

56. The kit of claim 51, wherein the means for selectively detecting the antibody is a label that is detectable by spectrophotometry or fluorometry, or an enzyme that acts on a chromogenic substrate, which label or enzyme is conjugated to the antibody.

57. The kit of claim 51, wherein the antibody binds to a *p63* protein having an amino acid sequence set forth in any one of SEQ ID NOS: 13-24.

58. The kit of claim 51, wherein the antibody is a monoclonal antibody.

59. The kit of claim 51, wherein the one or more antibodies is a preparation of *p63*-specific polyclonal antibodies.

60. The kit of claim 51, wherein the antibody differentially binds for different isotypes of *p63* proteins.

61. The kit of claim 51, wherein the antibody binds to one or more *p63* isotypes selected from the group consisting of TA**p63*, TAp*63*, and ΔN*p63*.

62. A kit for determining the level of *p63* protein in a sample, comprising: an antibody, or fragment thereof, which is selectively immunoreactive with a *p63* protein, relative to *p53* and *p73* proteins; and a control protein including a *p63* peptide sequence that is bound by the antibody.